relative attitude of the constituents that a portion of the augite is of earlier generation than the rest, and earlier than such portion of the hornblende as may be original. The rounded contours of the fresher masses of polysomatic augite suggest analogy with the rounded porphyritic masses shown in fig. 1. In addition to the idiomorphic plagioclase there is a subordinate proportion of plagioclase which shows no crystallographic boundaries. Occasionally a small grain of quartz may be detected. At fifteen feet from the dyke walls the structure is still ophitic. Augite is the dominant mineral and appears to be of two generations, (1) large, irregularly bounded polysomatic masses and idiomorphic crystals, (2) allotriomorphic, interstitial between the idiomorphic plagioclase. Quartz is sparingly present, and magnetite is in large, irregularly scattered grains, some of it allotriomorphically developed about the idiomorphic augite.

In the middle of the dyke the structure is entirely different from either that of a porphyrite or of an ophitic diabase. It is the type of structure characteristic of granite, gabbro, or diorite. All the important constituent minerals interfere with one another, and the only idiomorphic crystals are those of accessory minerals such as apatite. The aspect of a section of this part of the dyke is shown in the drawing, fig. 3. Quartz is abundant, and the augite appears to be entirely replaced by hornblende, so that the rock would be classed with the quartz-gabbros or quartz-diorites according as the hornblende is secondary or original. Considered simply as a hand specimen it is best termed, probably, a uralitic quartz-gabbro.

Mineralogical variation.—The most important mineralogical variation observable in the series of specimens taken across the dyke is the passage from a quartzless rock at the dyke wall to a quartzose one in the middle of the dyke. No quartz can be detected at the side of the dyke. At four feet from the side quartz may be observed in occasional grains, forming an exceedingly small proportion of the constituents; at fifteen feet it is somewhat more abundant, and in the middle of the dyke quartz is a prominent constituent of the rock. Another important change in the mineralogical composition of the rock is the encroachment of hornblende upon the augite as one passes from the dyke walls, and the final complete replacement of the augite in the middle of